Name: Date:

PCW_09_22 Coordinate transformations v7

Question 1

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f[3x+7]}{8} - 4$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(\frac{a-7}{3}\;,\; \frac{b}{8} - 4\right)$$

Question 2

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; 5 \cdot (f[6\,(x-4)] - 3)$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(\frac{a}{6} + 4\;,\; 5\,(b-3)\right)$$

Question 3

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f[8x-5]}{3} + 4$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(\frac{a+5}{8}\;,\; \frac{b}{3} + 4\right)$$

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Question 4

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f\left[\frac{x}{9}-2\right]-4}{5}$$

For point (a,b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a,b) \rightarrow \left(9\,(a+2)\;,\;\frac{b-4}{5}\right)$$

Question 5

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; 5\cdot f\left[\frac{x-2}{7}\right]+4$$

For point (a,b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a,b) \rightarrow (7a+2\;,\;5b+4)$$

Question 6

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f\left[\frac{x+2}{6}\right]+8}{9}$$

For point (a,b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a,b) \rightarrow \left(6a-2\;,\;\frac{b+8}{9}\right)$$